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# An abductive framework for knowledge base dynamics

Delhibabu R.
*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

## Abstract

© 2015 NSP. The dynamics of belief and knowledge is one of the major components of any autonomous system that should be able to incorporate new pieces of information. We introduced the knowledge base dynamics to deal with two important points: first, to handle belief states that need not be deductively closed; and the second point is the ability to declare certain parts of the belief as immutable. In this paper, we address another, radically new approach to this problem. This approach is very close to the Hansson's dyadic representation of belief. Here, we consider the immutable part as defining a new logical system. By a logical system, we mean that it defines its own consequence relation and closure operator. Based on this, we provide an abductive framework for knowledge base dynamics.

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## Keywords

Abduction, AGM, Immutable, Integrity constraint, Knowledge base dynamics